

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) An image expanding apparatus, comprising:

coding parameter detecting means for detecting coding parameters from an image code, said image code including a plurality of layout objects, each layout object of said plurality of layout objects including a plurality of tiles, said coding parameters including a number of layout objects of the plurality of layout objects that are in a particular page;

expanding parameter designating means for designating expanding parameters, said expanding parameters including a number of particular layout objects to be displayed in an expanded image;

extracting parameter calculating means for calculating extracting parameters based on the coding parameters and the expanding parameters, said extracting parameters including (i) one or more certain layout objects of the plurality of layout objects that are necessary for providing the expanded image and (ii) for each layout object of the one or more certain layout objects, one or more particular tiles of the plurality of tiles of the layout object that are to be used to provide the expanded image; and

code extracting means for extracting a code necessary for obtaining the expanded image designated by the expanding parameters from the image code with reference to the extracting parameters;

wherein the coding parameters further include vertical and horizontal sizes in pixels of a page image and a size of a tile,

wherein the expanding parameters further include an expanded image size proportional to a resolution of the expanded image and an image display area for each of the particular layout objects, and

wherein the extracting parameter calculating means is configured to further calculate as the extracting parameters a resolution level necessary for expanding an image based on the coding parameters and the expanding parameters.

2. (Previously presented) The image expanding apparatus as set forth in claim 1, further comprising:

image expanding means for obtaining the expanded image designated by the expanding parameters based on the extracted code.

3. (Original) The image expanding apparatus as set forth in claim 1, wherein the code extracting means is configured to extract as the extracted code a code having a necessary resolution level of a necessary tile of a necessary layout object.

4. (Cancelled)

5. (Original) The image expanding apparatus as set forth in claim 1, wherein the image expanding apparatus deals with a compound document file format according to the JPEG 2000 system.

6. (Currently Amended) An image expanding method, comprising:
detecting coding parameters from an image code, said image code including a plurality of layout objects, each layout object of said plurality of layout objects including a plurality of tiles, said coding parameters including a number of layout objects of the plurality of layout objects that are in a particular page;

designating expanding parameters, said expanding parameters including a number of particular layout objects to be displayed in an expanded image;

calculating extracting parameters based on the coding parameters and the expanding parameters, said extracting parameters including (i) one or more certain layout objects of the plurality of layout objects that are necessary for providing the expanded image and (ii) for

each layout object of the one or more certain layout objects, one or more particular tiles of the plurality of tiles of the layout object that are to be used to provide the expanded image; and

extracting a code necessary for obtaining the expanded image designated by the expanding parameters from the image code with reference to the extracting parameters;

wherein the coding parameters further include vertical and horizontal sizes in pixels of a page image and a size of a tile,

wherein the expanding parameters further include an expanded image size proportional to a resolution of the expanded image and an image display area for each of the particular layout objects, and

wherein the extracting parameter calculating step further includes calculating as the extracting parameters a resolution level necessary for expanding an image based on the coding parameters and the expanding parameters.

7. (Previously presented) The image expanding method as set forth in claim 6, further comprising:

obtaining the expanded image designated by the expanding parameters based on the extracted code.

8. (Original) The image expanding method as set forth in claim 6,
wherein the code extracting step is performed by extracting as the extracted code a code having a necessary resolution level of a necessary tile of a necessary layout object.

9. (Cancelled)

10. (Original) The image expanding method as set forth in claim 6,

wherein the image expanding method deals with a compound document file format according to the JPEG 2000 system.

11. (Currently Amended) A storing device storing a program which, when executed on a computer, causes the computer to perform an image expanding method, the image expanding method comprising:

detecting coding parameters from an image code, said image code including a plurality of layout objects, each layout object of said plurality of layout objects including a plurality of tiles, said coding parameters including a number of layout objects of the plurality of layout objects that are in a particular page;

designating expanding parameters, said expanding parameters including a number of particular layout objects to be displayed in an expanded image;

calculating extracting parameters based on the coding parameters and the expanding parameters, said extracting parameters including (i) one or more certain layout objects of the plurality of layout objects that are necessary for providing the expanded image and (ii) for each layout object of the one or more certain layout objects, one or more particular tiles of the plurality of tiles of the layout object that are to be used to provide the expanded image; and

extracting a code necessary for obtaining the expanded image designated by the expanding parameters from the image code with reference to the extracting parameters;

wherein the coding parameters further include vertical and horizontal sizes in pixels of a page image and a size of a tile,

wherein the expanding parameters further include an expanded image size proportional to a resolution of the expanded image and an image display area for each of the particular layout objects, and

wherein the extracting parameter calculating step further includes calculating as the extracting parameters a resolution level necessary for expanding an image based on the coding parameters and the expanding parameters.

12. (Previously presented) The storing device as set forth in claim 11, wherein the image expanding method further comprises:

obtaining the expanded image designated by the expanding parameters based on the extracted code.

13. (Previously presented) The storing device as set forth in claim 11, wherein the code extracting step is performed by extracting as the extracted code a code having a necessary resolution level of a necessary tile of a necessary layout object.

14. (Cancelled)

15. (Previously presented) The storing device as set forth in claim 11, wherein the image expanding method deals with a compound document file format according to the JPEG 2000 system.

16. (Previously presented) The image expanding apparatus as set forth in claim 1, wherein the code necessary for obtaining the expanded image is related to a resolution level obtained by the extracting parameter calculating means.

17. (Previously presented) The image expanding method as set forth in claim 6, wherein the code necessary for obtaining the expanded image is related to a resolution level obtained by calculating the extracting parameters.

18. (Previously presented) The storing device as set forth in claim 11, wherein the code necessary for obtaining the expanded image is related to a resolution level obtained by the extracting parameter calculating means.

19. (New) The image expanding apparatus as set forth in claim 1, wherein the extracting parameter is calculated for each display based on a coding parameter and an expanding parameter,

wherein the coding parameter is static for each display and the expanding parameter is dynamic for each display.

20. (New) The image expanding apparatus as set forth in claim 1, wherein the coding parameter, the expanding parameter and the extracting parameter are numbers instead of image codes.

21. (New) The image expanding apparatus as set forth in claim 1, wherein the extracting parameter is calculated based upon a resolution level which is included in the coding parameters.

22. (New) The image expanding method as set forth in claim 6, wherein the extracting parameter is calculated for each display based on a coding parameter and an expanding parameter,

wherein the coding parameter is static for each display and the expanding parameter is dynamic for each display.

23. (New) The image expanding method as set forth in claim 6, wherein the coding parameter, the expanding parameter and the extracting parameter are numbers instead of image codes.

24. (New) The image expanding method as set forth in claim 6, wherein the extracting parameter is calculated based upon a resolution level which is included in the coding parameters.

25. (New) The storing device as set forth in claim 11, wherein the extracting parameter is calculated for each display based on a coding parameter and an expanding parameter,

wherein the coding parameter is static for each display and the expanding parameter is dynamic for each display.

26. (New) The storing device as set forth in claim 11, wherein the coding parameter, the expanding parameter and the extracting parameter are numbers instead of image codes.

27. (New) The storing device as set forth in claim 11, wherein the extracting parameter is calculated based upon a resolution level which is included in the coding parameters.